



**Climate Smart Agriculture Webinar
Coleambally Irrigation Co-
operative's Perspective**

20 June 2017

Key Tenets

- Climate smart agriculture involves more than the efficient use of resources
- Government should encourage climate smart agriculture but
 - should avoid trying to pick ‘winners’
 - and not try to bring about change without first understanding what it is it is changing
- Climate smart agriculture requires enduring commitment to RD&E and to environmental stewardship



Operational Setting

- Cropping all year round but 80% of income generated by summer cropping
- Highly variable rainfall & regulated river operations
- Allocation system based on dam storage levels & type of water entitlement held
- Most CICL farmers hold General Security water entitlement - long-term reliability is approximately 70%
- When allocations are low, many farmers will trade their water

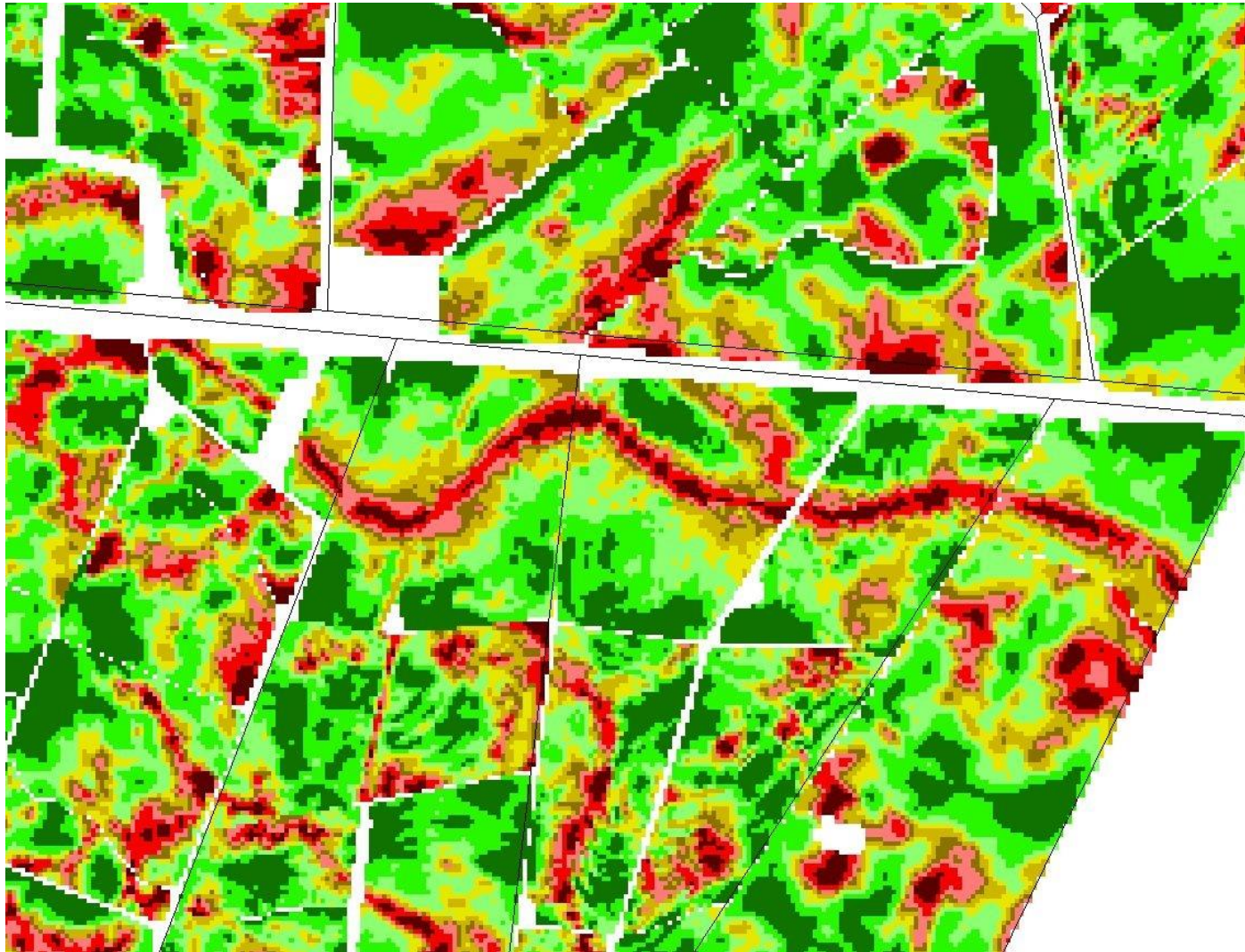
Operational Numbers

- Fully automated gravity-fed & solar powered distribution delivering water over an operating area of 450,000 ha (1,111,974 acres)
- 518 km of Supply Channels & 734 km of Drains; servicing 479 farms
- 512 GL (415,085 acre feet) of surface water on CICL's licence
- Average size of irrigated properties is 200ha (494 acres) but dryland farms are much bigger

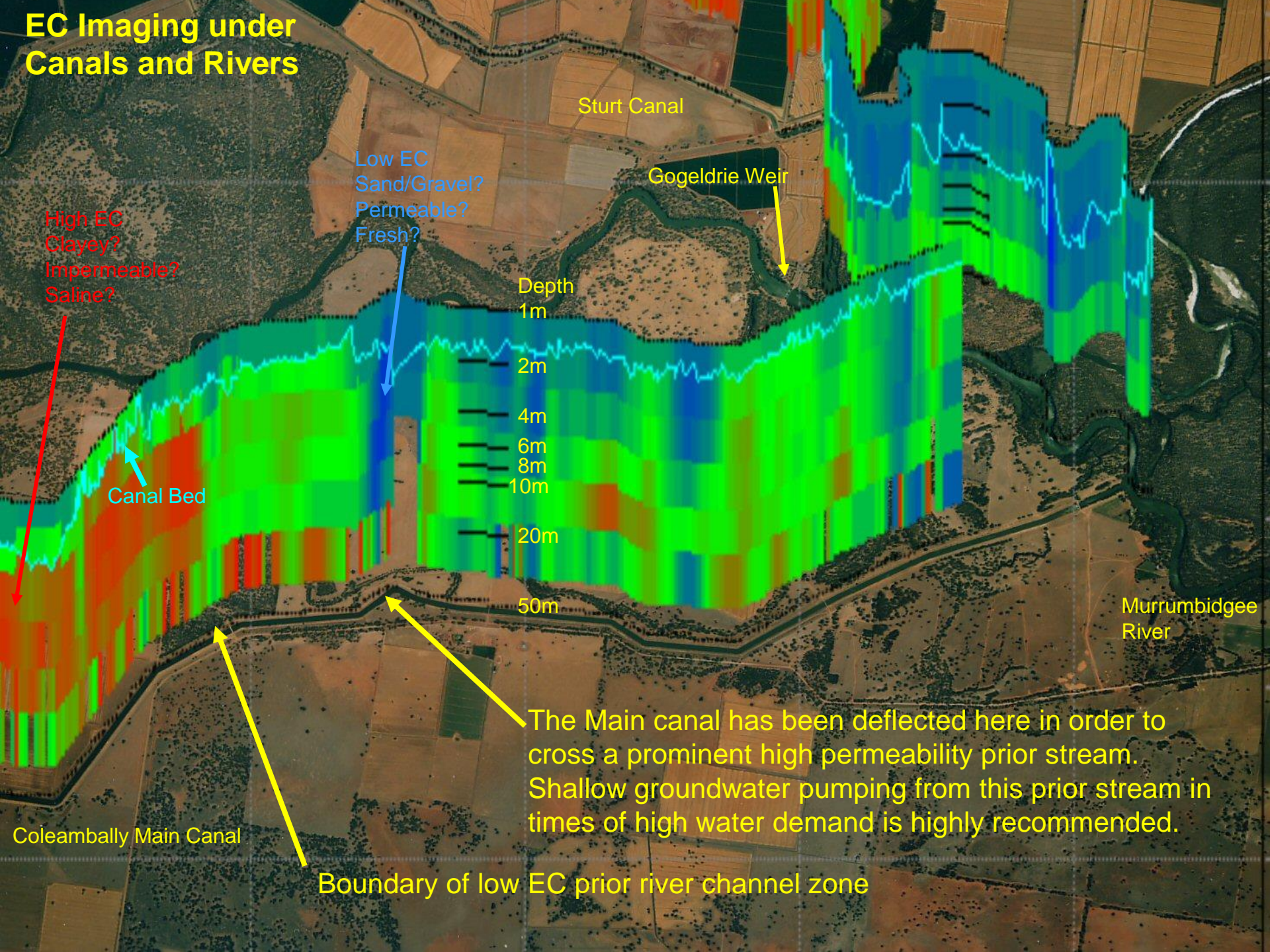
Modernisation Journey

- Journey commenced in 1999 with an on-farm focus
 - 15 year Land & Water Management Plan (water table 'driver')
 - Whole-farm plans
 - Recycling
 - Habit protection
 - Water use intensity trigger
- Delivery system modernisation
 - Understanding & remediating water losses
 - Better understanding of local weather conditions
 - Automation of water demand, accounting & distribution & , accurate metering
 - Sale of water entitlement to Government @ above market rates

EM31 – Prior Streams



EC Imaging under Canals and Rivers



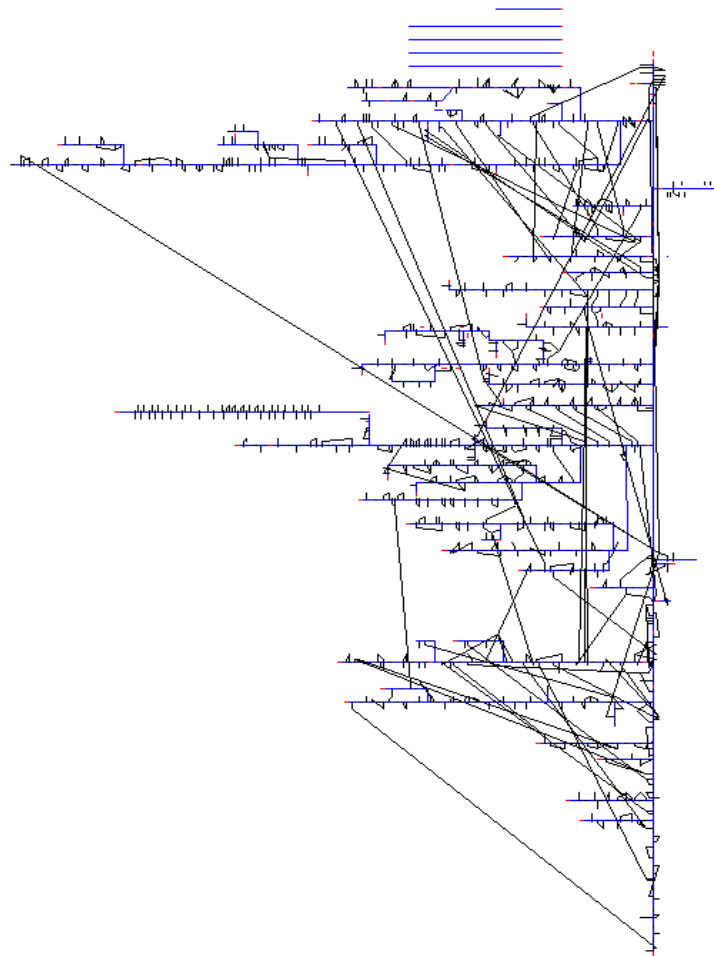








SCADA



Data loaded

Mode: Display

Ratio [1:393]

X: -245985 Y: -46962

Start

Inbox - Microsoft ...

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CIA Overview.pptx

Presentation1

Murray darling as...

Schematic

Network - COLE...

8:08 AM

Overview

Comms.

Back

Forward

Alarms

Trend

Paging

Log In/Out

Exit

BOONA-9

Time
Poll

SITE ID 2018 RTU Software Ver. No. 3.900

- Control Suspended
- Peer Communications Status
- RTU Time Not Set
- Sites Table Not in MOSCAD RTU

Flumegate R

Control Mode POSITION

U/S Water Level 1.179 m

0.000

D/S Water Level 0.462 m

0.0

Current Flow 0.0 ML/d

Current Volume for Season 10523.4 ML

Site Status

Sensor Status

Local Ctrl. Tuning

TCC Tuning

Comms. Setup

Presets

Flow Accum.

Flow Calc.

GATE 1 SDB 5.140

Gate 1 Position 351 mm 350

Gate 1 Elevation 1.217 m

Gate 1 Flow 0.0 ML/d

e 1 in Manual Mode NO

Gate Status

Remote Mode

GATE 2 SDB 5.140

Gate 2 Position 351 mm 350

Gate 2 Elevation 1.217 m

Gate 2 Flow 0.0 ML/d

e 2 in Manual Mode NO

Gate Status

Remote Mode

GATE 3 SDB 5.140

Gate 3 Position 351 mm 350

Gate 3 Elevation 1.217 m

Gate 3 Flow 0.0 ML/d

e 3 in Manual Mode NO

Gate Status

Remote Mode

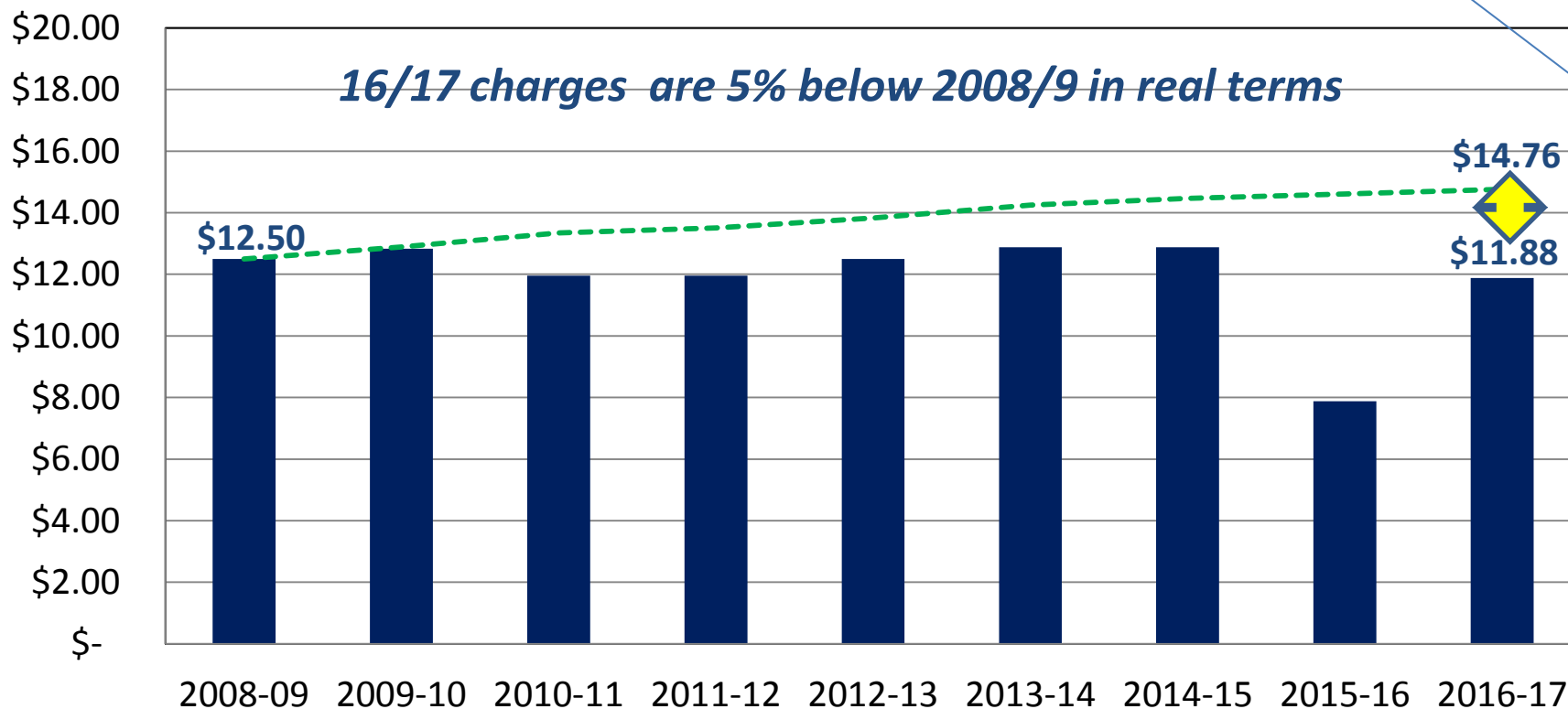
Modernisation Outcomes

- Water savings of approx 65,000 ML (53,000 acre feet) per annum
- Fewer, but better paid, employees
- Most efficient open-channel operation in Australia
 - Automation down to farm gate
 - Shortest water ordering time (2 hours)
 - Guaranteed minimum level of supply (14ML/day or 11.35 acre feet/day)
 - Lowest system losses
 - High peak flow rates
 - Quality of drainage
 - Most stable pricing & best return to owners

Modernisation Outcomes – Increased Operating Efficiency (Losses in ML)

99/00	75,800 (61,398)	08/09	32,046 (25,957)
00/01	85,806 (69,502)	09/10	39,839 (32,269)
01/02	99,690 (80,749)	10/11	32,316 (26,175)
02/03	110,312 (89,352)	11/12	33,081 (26,795)
03/04	90,123 (72,999)	12/13	28,813 (23,338)
04/05	108,026 (87,501)	13/14	25,056 (20,295)
05/06	39,784 (32,225)	14/15	26,975 (21,829)
06/07	35,704 (28,920)	15/16	27,084 (21,938)
07/08	30,627 (24,807)		

Modernisation Outcomes - Price Stabilisation



A Unique Business Model

- Fixed charges
- Charges based on Delivery Entitlement not Water Entitlement
- Price stabilisation – a strategic objective
- Water Savings shared with Members (60% @ no cost, 40% @ below market price, both pro-rated against amount of delivery Entitlement held)

Environmental Management

- **Environmental management is Core Business**
- Bound by Operating and Environmental licences
- Explicit reference to environmental requirements in CICL Rules
- ‘Centre piece’ is CICL’s Water Use Limit Policy to control water table/salinity & CICL’s Drainage Policy to control water quality quality
- 800 piezometers read twice a year
- ALL ‘take’ accurately metered
- Policies are ‘real’ and enforced

Climate Smart Agriculture (cont)

- Nothing that CILCL has done since privatisation has been solely about Climate Smart Ag – rather a case of realising that it need to adapt to a changing world (government/market forces/technology/rising input costs/societal expectations & climate)
- Required a multi-faceted approach, which included
 - privatisation
 - modernisation
 - new business model
 - repositioning environment, compliance & government relations to be core business

Climate Smart Agriculture (cont)

In Members' case:

- a commitment to more sustainable farming & modernisation
- Increased emphasis on all year-round cropping & crop diversification
- increased scale of operations & new business structures
- acceptance of water trading
- viewing Water Entitlement differently
- increased acceptance (albeit sometimes reluctant) of climate change & place of the environment

Climate Smart Agriculture (cont)

- Government' place:
 - Improved regulation, not more regulation
 - Creation of the right conditions for change
 - Reduced uncertainty
 - Targeted /strategic intervention:
 - Provision of 'enablers' (tax, incentives, timelines etc)
 - Continued support for Research, Development & Extension
 - Resisting the temptation to pick 'winners'

Climate Smart Agriculture (cont)

- Industry's place
 - Needs to be Involved in the design of related Government policy, programs & incentives
 - Needs to be seen as a 'delivery partner' (upwards & downwards)
 - Needs to co-invest, be open to new business models
 - Needs to understand that it operates with a social licence & see environmental management as core business
- Irrigators' place
 - Can't afford to stand still
 - Also need to understand that they operate with a social licence & see environmental management as core business
 - Need to understand that producing food in sustainable & responsible ways makes good business sense

Climate Smart Agriculture – a “Marriage”

- Good policy settings
- Properly functioning markets
- Good climate/weather research & forecasting
- Government & Industry commitment to Research, Development & Extension
- Industry leadership, to encourage & facilitate on-farm adaptation
- Enduring commitment by Government, industry & farmers to sustainable production & environmental stewardship